

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Arnold et al.

Serial No.: 09/815,877

Filed: March 23, 2001

For: **A WARMING APPARATUS WITH AN INFLATABLE COVER AND AN INLET PORT PLUG**



Group No.: 3739

Examiner: Kenneth G. Schopfer

Docket No. AUGA15000005

#15
11/18

CERTIFICATION UNDER 37 CFR § 1.8

I hereby certify that the documents referred to as enclosed herein are being deposited with the United States Postal Service as first class mail on this date November 10, 2003, in an envelope addressed to: Mail Stop AF, Box 1450, Commissioner for Patents, Alexandria, VA 22313-1450

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BRIEF ON APPEAL

In response to the Final Action mailed June 3, 2003, and in view of the Notice of Appeal mailed on September 3, 2002, the applicant submits this Brief on Appeal. This paper is submitted in triplicate, by first class mail on November 10, 2003, which is within two months of the Notice of Appeal, taking into account the weekend of November 8-9, 2003.

The Board is respectfully requested to note the change of correspondence address for this application.

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REAL PARTY IN INTEREST

The real party in interest is Arizant Healthcare Inc., the assignee of rights in this application.

RELATED APPEALS

There are no related appeals.

STATUS OF THE CLAIMS

Claims 34-37, 40, 44-47, 54, 56-58, 61, 65-68, and 70 have all been rejected in the Final Action mailed June 3, 2003.

STATUS OF AMENDMENTS

An Amendment and Request for Reconsideration submitted by first class mail on March 19, 2003 was received by the United States Patent Office on March 24, 2003 according to the Office's stamp on the applicants' return post card.

SUMMARY OF THE INVENTION

The invention concerns an inflatable device such as the inflatable thermal blankets shown in FIGS 15 and 16. Each inflatable thermal blanket has a pair of inlet ports for receiving the nozzle of an air hose through which air flows to inflate the blanket. Each blanket has apertures through a lower surface through which pressurized air exits. When a blanket is placed over a person with the apertures facing the person and inflated with warmed air, the person is bathed in a convectively warmed environment. Such inflatable thermal blankets effectively treat hypothermia and have been widely accepted for clinical use.

Typically, only one inlet port of an inflatable thermal blanket is used at any one time for inflation; two (or more) ports are provided for flexibility in initially positioning air flow equipment, and for the possibility that air flow equipment might be repositioned during use of an inflatable blanket. As set forth at page 2, lines 1-10, the inlet ports of prior art inflatable thermal blankets were closed by the material of which the blanket was made. When a nozzle was inserted, it pierced the material and entered the inlet port. However, when the nozzle was withdrawn and inserted in another inlet port, the first-used port had to be closed to prevent pressurized air escaping from the blanket through the opened inlet port. The means of reclosure in these prior art blankets included tape, adhesive strips, snaps, zippers, and so on. however, not all of these reclosure means work satisfactorily, and most are difficult and expensive to accommodate in manufacture of thermal blankets. See page 2, lines 11-24.

The invention permits reclosure of an opened inlet port during use of an inflatable thermal blanket by provision of a plug placed and retained in an inlet port to restrict the egress of air therefrom. Various embodiments of such plugs are shown in FIGS. 1-14.

An inlet port is shown in FIG. 2 and is described at page 6, lines 3-14 as a hole in a rectangular sheet of cardboard. Slits extend a short distance radially from the edge of the hole to accommodate and grasp the outer surface of a nozzle. One plug embodiment, shown in FIGS. 1-8e, has a central planar body and a plurality of extensions which are coplanar with and extend from the central body. Such a plug is retained or "removably received" in an inlet port by receipt of extensions in the hole of the inlet port. For insertion or removal of such a plug, the central body is flexed to retract the extensions received in the hole and the extensions are inserted into or retracted from the hole. See FIGS. 2, 3, 5, and 6 in this regard.

The invention is based on the combination of an inflatable device, or an inflatable thermal blanket having two (or more) inlet ports with a plug placed, retained, or removably received in at least one of the inlet ports. In one broad aspect, the invention is a method for controlling air flow through an inflatable device by placing and retaining a plug in one inlet port

(claim 34); in another broad aspect, the invention is an apparatus for warming a person that includes an inflatable cover with two inlet ports and a plug removably received in one of the ports (the remaining claims).

ISSUES

The issues are:

1. whether claim 34 is unpatentable under 35 USC §102 for anticipation by Hunter (USPN 4930174); and
2. whether claims 34-37, 40, 44-47, 54, 56-58, 61, 65-68, and 70 are unpatentable under 35 USC §103 for obviousness over the combination of Berke et al (USPN5304213) with McCord (USPN 4043474).

GROUPING OF CLAIMS

Claim 34 stands or falls alone.

Claims 35 and 54 stand or fall together.

Claims 36, 37, 40, and 44-47 stand or fall together.

Claim 56 stands or falls alone.

Claims 57, 58, 61, 65-68 and 70 stand or fall together.

ARGUMENT

Rejection of claim 34 for anticipation

Claim 34 is rejected for anticipation by Hunter. That rejection is incorrect and should be withdrawn for the following reasons.

Rejection of a claim for anticipation by a reference requires that the reference contain in its four corners all elements or steps of the rejected claim and all limitations thereof expressly or inherently.

Claim 34 is directed to a method for controlling airflow through an inflatable device having two or more inlet ports that admit airflow into the device, in which a plug is provided. The claim includes the compound act of “placing the plug in an inlet port and retaining the plug in the inlet port”. The result is that the plug restricts egress of air from the inflatable device through the inlet port when an airflow is introduced through the other inlet port.

The contention is that “Hunter teaches all of the limitations of this claim” and that there are two inlets 25 “each with a plug”. The applicants respectfully submit that Hunter does not describe an inflatable device “having two or more air inlets” and a “plug”, or the act of “placing the plug in an inlet port and retaining the plug in the inlet port”. In fact no reference was given to the specific teachings of Hunter in this regard. What Hunter describes is an air mattress having pump assemblies 10 incorporated or adapted to be inserted into the air mattress. (See Hunter at column 2, lines 19-24). The elements denoted by the reference numeral 25 are air inlets for the pump assemblies 10. (See Hunter at column 2, lines 7 and 8). Accordingly, in Hunter, a pump is received in an air mattress and a port is provided in “the pump”. If an air inlet assembly 25 in Hunter is read as an inlet port, it must be read as an inlet port “in a pump”, not as an inlet port in an inflatable device.

With respect to the acts set forth in claim 34, the method controls airflow through an inflatable device having two or more inlet ports for admitting airflow into the device, which by way of the following specifically-recited acts includes:

“providing a plug ...” (Fig. 1 of the application; not shown or described in Hunter);

“placing the plug in an inlet port and retaining the plug in the inlet port ... ” (Figs 2, 15, and 16 of the application; not shown or described in Hunter);

“the plug restricting egress of the airflow through the other inlet port. (Figs 15, and 16 of the application; not shown or described in Hunter)

Hunter describes an air mattress having two pump assemblies 10 and an exhaust valve 12. The pump assemblies 10 are used to inflate the mattress while the exhaust valve 12 is used to deflate the mattress. Each pump assembly 10 includes an envelope 15 defining a

pumping chamber 16 with an inlet passage 23 and extending “from each envelope 15 is a first duct 18 which also acts as a one way valve.” (See Hunter at col. 2, lines 36-46, underlining added for emphasis). These one-way valves are located in air inlet assemblies 25, each of which provide the air intake for each pump assembly. In use, the user places a hand over the passage 23 and compresses the chamber 16, “the volume of the chamber 16 is reduced, thereby compressing air within each chamber 16. The air is then forced out through the first duct 18 into the air mattress. When the user releases a hand from one of the envelopes 15, the associated passage 23 is exposed thereby allowing air to enter the chamber 16.” The process is then repeated until the air mattress is inflated. In addition, the pumps can be compressed either together or out of phase. (See Hunter at col. 2, lines 46-65).

Hunter nowhere recites a “plug” or any synonym thereof. As described, the two pump inlets are provided with one way valves. The pumps can be used together or independently, with the air entering the mattress through one way valves. Air cannot exit the mattress through the inlets, therefore eliminating any need for providing a plug, placing the plug in an inlet port, retaining the plug in the inlet port with the plug restricting egress of the airflow through the other inlet port, as required in claim 34.

Accordingly, the Board is respectfully requested to direct that this rejection be withdrawn.

Rejection of claims 34-37, 40, 44-47, 54, 56-58, 61, 65-68, and 70

Claims 34-37, 40, 44-47, 54, 56-58, 61, 65-68, and 70 are rejected for obviousness over Berke in view of McCord. That rejection is incorrect and should be withdrawn for the following reasons.

Claims 34 and 35

Claim 34 has already been summarized. Claim 35 is directed to a warming apparatus including “an inflatable cover” to be disposed over a body portion of a person, “two inlet ports” in the cover, and “a plug removably received in at least one port of the two ports.”

During examination, it has been proposed that “Berke et al. teach all of the limitations of these claims except for the plug. Berke et al. disclose an inflatable device having two inlets 73 and 74, each with a pull-seal label closing” and that “McCord teaches a plug 30 for closing a container.” The conclusion reached is that it “would have been obvious to one of ordinary skill in the art at the time of the invention to use a plug as in McCord in the device of Berke et al. as an effective means to prevent egress of air.”

Graham Factual Inquiries

Berke discloses a disposable hyper-hypothermia blanket 70 having “two receptacle openings 73 and 74. An opening is provided on both sides of the blanket for convenience of use by medical personnel. Each has a pull-seal closing off the openings, one of which can simply be removed with the blanket is ready for use. A thin non-sealing membrane covering which is easily broken can also be used.” (See Berke at column 6, lines 34-40, FIG. 7).

McCord teaches a closure for a container that is generally cylindrical in shape and made of plastic or cardboard. Containers are not “inflatable covers”, and their openings are not “inlet ports”. Such containers are rigid, made of hard materials, and McCord's closure depends upon such rigidity for support and operation. Such containers are used, for example, for retention and storage of drain cleaners and toilet bowl cleaners. McCord's container includes a can curl (a generally circular rim 20) formed as a rolled bead. The closure is centered in the rim 20. The closure keeps caustic and dangerous material securely stored in a can. See McCord at column 1, lines 25-30). In contrast, an inflatable cover is a flexible device capable of distending in response to a stream of pressurized air. These devices are not constructed to be rigid in order to support and maintain contents. The inlet port of an inflatable device is made of a sheet of generally flexible or resilient material. (See the specification, page 3, lines 5-8). Why would an artisan in the inflatable device arts, seeking to solve the problem of resealing an inlet port of an inflatable device, look to the can arts for a solution? McCord is simply not analogous art. See *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992) and MPEP 2141.01(a) at page 2100-116.

Further, the combination of an inflatable cover or device having inlet ports with a plug removably received in at least one inlet port solves a problem first noted by the applicants: how to reseal or close an inlet port after removal of a hose. This problem is clearly laid out in the specification at page 2, lines 11-24; it is not discussed or illustrated in either Berke or McCord. Berke's target problems are temperature uniformity and air filtration. Berke provides two blanket openings, but they are initially sealed with pull-seal labels "one of which can simply be removed when the blanket is ready for use." Berke column 6, lines 35-39. Berke evidently presumes that one of the two blanket openings will be selected for receipt of an air hose nozzle, but is altogether silent with respect to how the selected opening will be resealed if the nozzle is withdrawn before use of the blanket is completed. (See Berke at column 6, lines 35-65). In examination, the sole focus has been on finding a plug which closes an opening. McCord's can closure was found. However, there is no motivation or logic that connects that closure with Berke's openings, especially when Berke presumes that one opening will be chosen and used and gives no consideration whatsoever to the problem of resealing an inlet port when a nozzle is withdrawn from it. Manifestly there has been no consideration of the invention as a whole during examination. See MPEP 2141.02.

Thus, the factual inquiries under *Graham* indicate that the invention of claims 34 and 35 is not obvious over the combination of Berke and McCord.

Prima facie Obviousness

Prima facie, rejection of a claim for obviousness over a combination of references requires some suggestion or motivation to combine the references, a reasonable expectation of success, and the inclusion of all elements and limitations of the rejected claim in the combination or by suggestion. See MPEP 2142, et seq.

There is no teaching in Berke that suggests combining Berke with McCord to provide an airflow control method as set forth in claim 34 for an inflatable device with inlet ports that provides a plug, places and retains the plug in an inlet port and then introduces airflow into another inlet port, with the plug preventing egress of airflow. Neither is there a suggestion to combine these references to yield the warming apparatus recited in claim 35 including an inflatable cover to be disposed over a body portion of a person, "two inlet ports" in the cover, and "a plug removably received in at least one port of the two ports." The disposable hyper-hypothermia blanket of Berke is provided with closures in receptacle openings, either in the form of pull-seals or thin non-sealing membrane coverings that can be broken. Since reclosing or resealing the inlets in Berke's blanket is not necessary for it to function, there is no suggestion or motivation to modify the reference to include an inlet plug in either receptacle opening.

Moreover, McCord's closure is in a field altogether unrelated to the blanket Berke discloses, and solves a problem that is not related to that solved by the rejected claims: how to reseal or close an inlet port after removal of a hose. McCord's invention is in the container arts, and is intended to provide a child proof, snap-fit closure for a rigid opening in a container. (See McCord at column 6, lines 48-63). There is no discussion or intimation in McCord which would lead one skilled in the art of hyper-hypothermia blankets to consider the use of a snap-fit closure to close an already-closed opening in Berke's blanket.

Further, it has not been demonstrated that the modification of the cited prior art points to the reasonable expectation of success, which is the second requirement of the obviousness analysis. Rather, close consideration of Berke and McCord leads to the opposite conclusion. In this regard, the collars used in the inlet openings in Berke are described as "a collapsible box-like design which allows it to fold down upon itself" with "a center horizontal fold line 38 ... to facilitate the collapsing of the collar." (Berke, column 5, lines 4-11). The modification of the collar with the closure disclosed in McCord would prevent collapsing of the collar, thereby rendering Berke's receptacle opening unsatisfactory for its intended purpose. (See Berke at column 5, lines 4-6).

Finally, the combined references do not teach or suggest all the claim limitations. Berke has been read with diligence, but no reference has been found to an "inflatable cover" or to an "inflatable blanket" for that matter. There is also no reference in Berke to "placing the plug in an inlet port". In this regard, Berke's ports are sealed and do not need to be plugged. Nor is there any reference in Berke to "the plug restricting egress of the airflow through the other inlet port", again because Berke's other inlet port is sealed with either a pull-seal or a thin non-sealing membrane covering. McCord does not rectify these omissions. The applicants timely requested entry of an affidavit, Official Notice, or a reference in support of the examiner's opinion that these elements and limitations are suggested by or otherwise described in Berke. None has been forthcoming to date. See MPEP at 2144.03.

The position has also been taken that it "would have been obvious to one of ordinary skill in the art at the time of the invention to include a plug as in McCord in the device of Berke et al. as an effective means to repeatedly close and open the inlet port of the device." The applicants respectfully submit that such reasoning does not support the suggestion to combine Berke with McCord. The device disclosed in Berke is a disposable blanket. There is nothing in Berke which discloses a requirement to repeatedly close and open the inlet port of the device. One skilled in the art would have thought to plug an opening in Berke's blanket with McCord's closure only if he had been aware of the problem of resealing which is solved by the invention of

the rejected claims. The only way this would have occurred would be if the skilled artisan had read the applicant's specification. But the insight would not have been obvious at the time it was made. Manifestly, the only connection between Berke's openings and McCord's closure is in the applicant's disclosure, but this connection was apparent only after the invention was made; therefore, the nexus between Berke and McCord is the result of impermissible hindsight. See *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir., 1999).

Thus, there is no suggestion or motivation to combine these references, there is no reasonable expectation of success, and the combined references do not teach or suggest all elements and limitations of the rejected claims.

The Board is therefore requested to direct that this rejection be withdrawn with respect to claims 34 and 35.

Claims 36, 37, 40, and 44-47

Claims 36, 37, 40, and 44-47 are further limited to the apparatus of claim 35 wherein the plug includes "a planar central body" and "a plurality of flexible extensions coplanar with the central body and which extend from the central body, at least two of which are receivable in the one port." This is distinct from McCord's closure which has a "round and planar member 34 which is connected by a short annular wall 36 to an upper annular ring 38." McCord's closure further includes an annular flange 40 that "extends beyond the annular wall 36 ...". This annular flange 40 cooperates with the annular wall to engage the rim 20 of a container "to provide a tight fitting snap-fit seal between the closure and the rim." (See McCord at column 3, lines 60-65 and in FIGS. 5, 6, and 8). McCord's annular flange 40 "has formed on it arcuate lugs 42, 44 which are located to cooperate with the arcuate recesses 22, 24 and are larger than the recesses ...". (See McCord at column 4, lines 1-5). The flange 40 is distinct from the round and planar member in both structure and function according to McCord's description. The flange is denominated, described, and illustrated as a separate element with respect to the round and planar member, and it is critical to the "snap-fit" objective that McCord seeks to achieve with his closure. The flange 40 therefore cannot be eliminated as an element and cannot be read as merely part of the round and planar member. Only this flange has and can have arcuate lugs; the round and planar member cannot and does not. McCord therefore does not teach or suggest a "planar central body" and "a plurality of extensions coplanar with the central body and which extend from the central body, at least two of which are receivable in the one port."

The Board is therefore requested to direct that this rejection be withdrawn with respect to claims 36, 37, 40, and 44-47.

Claim 56

Claim 56 is further limited to the apparatus of claim 35 wherein “the first inlet port includes a first sheet of flexible material attached to the inflatable cover and a hole adapted to receive the nozzle of an air hose” and “the second inlet port includes a second sheet of flexible material attached to the inflatable cover and a hole adapted to receive the nozzle of an air hose”. Berke’s blanket has a receptacle opening in a “semi-rigid reinforcing collar 36”. The collar 36 has “a collapsible box-like design”. See Berke at column 4, line 65-column 5, line 11). The opening in McCord’s can is through a planar end member 16 that consists of an annular ring 18 and a can curl 20 formed as a rolled bead “as is well known in the container and metal working arts.” (See McCord at column 3, lines 40-45). In other words, Berke’s receptacle opening and McCord’s can orifice are not formed in “flexible” elements. Therefore, neither Berke nor McCord describes or suggests an inlet port which includes a sheet “of flexible material attached to the inflatable cover” with a hole adapted to receive an air hose nozzle.

The Board is therefore requested to direct that this rejection be withdrawn with respect to claim 56.

Claims 57, 58, 61, 65-68 and 70

Claims 57, 58, 61, 65-68, and 70 are further limited to the apparatus of claim 35 and claim 56. For reasons given above in support of the patentability of claim 35, claim 56 and claims 36, 37, 40, and 44-47, the combination of Berke and McCord does not include an apparatus for warming a person that includes an inflatable cover, two inlet ports, each including a flexible sheet attached to the inflatable cover and a hole adapted to receive an air hose nozzle, and a plug removably received in at least one of the inlet ports, and which includes “a planar central body” and “a plurality of flexible extensions coplanar with the central body and which extend from the central body, at least two of which are receivable in the one port.”

The Board is therefore requested to direct that this rejection be withdrawn with respect to claims 57, 58, 61, 65-68, and 70.

Date: *November 10, 2003*

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APPENDIX

34. (Previously amended) A method for controlling airflow through an inflatable device having two or more inlet ports for admitting airflow into the device, the method comprising the steps of:

providing a plug;
placing the plug in an inlet port and retaining the plug in the inlet port;
introducing an airflow into the device through another inlet port; and
the plug restricting egress of the airflow through the other inlet port.

35. (Previously added) An apparatus for warming a person, comprising:
an inflatable cover for disposition on a portion of a person's body;
two inlet ports in the inflatable cover; and
a plug removably received in at least one port of the two ports.

36. (Previously added) The apparatus of claim 35, the plug including:
a planar central body; and,
a plurality of extensions coplanar with the central body and which extend from the central body, at least two of which are receivable in the one port.

37. (Previously added) The apparatus of claim 36 wherein at least one of the extensions is curved.

40. (Previously added) The apparatus of claim 36 wherein at least one of the extensions is formed from a resilient material.

44. (Previously added) The apparatus of claim 36 wherein the plug is a plastic material.

45. (Previously added) The apparatus of claim 36 wherein the plug is a wood pulp material.

46. (Previously added) The apparatus of claim 36 wherein the plurality of extensions includes an even number of opposing extensions.

47. (Previously added) The apparatus of claim 46 wherein the plurality of extensions includes two pairs of opposing extensions.

54. (Previously added) The apparatus of claim 35, wherein the inflatable cover is for transverse disposition across the chest of a person's body.

56. (Previously added) The apparatus of claim 35, wherein:
the first inlet port includes a first sheet of flexible material attached to the inflatable cover and a hole adapted to receive the nozzle of an air hose; and
the second port includes a second sheet of flexible material attached to the inflatable cover and a hole adapted to receive the nozzle of an air hose.

57. (Previously added) The apparatus of claim 56, the plug including:
a planar central body; and,
a plurality of extensions coplanar with the central body and which extend from the central body, at least two of which are receivable in the hole of the first sheet and in the hole of the second sheet.

58. (Previously added) The apparatus of claim 57 wherein at least one of the extensions is curved.

61. (Previously added) The apparatus of claim 57 wherein at least one of the extensions is formed from a resilient material.

65. (Previously added) The apparatus of claim 57 wherein the plug is a plastic material.

66. (Previously added) The apparatus of claim 57 wherein the plug is a wood pulp material.

67. (Previously added) The apparatus of claim 57 wherein the plurality of extensions includes an even number of opposing extensions.

68. (Previously added) The apparatus of claim 67 wherein the plurality of extensions includes two pairs of opposing extensions.

70. (Previously added) The apparatus of claim 57, wherein the inflatable cover is for transverse disposition across the chest of a person's body.